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10/601,464	06/23/2003	Ronald Brooks Miller		2224

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EXAMINER
PATEL, ISHWARBHAI B

ART UNIT	PAPER NUMBER
2841	

DATE MAILED: 11/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/601,464

Applicant(s)

MILLER, RONALD BROOKS

Examiner

Ishwar (I. B.) Patel

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2005 and 01 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 5,6,8-12,15 and 16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7, 13, 14 and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/11/03.
- 4) ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date. 1105.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election of specie II, reading on figure 2, in the reply filed on August 1, 2005 (and subsequent clarification filed on October 4, 2005), is acknowledged.

Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Claims 1-4, 7, 13, 14 and 17 are examined for patentability.

Claims 5, 6, 8-12, 15 and 16 are withdrawn from further consideration (see interview summary). However, as stated in previous action, if any generic claims is allowed, the claims which includes all the limitations of the allowable subject matter will be rejoined and will be examined for patentability.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on October 11, 2003 is considered by the examiner. For those prior art showing the application number on form 1449, the corresponding US Patent Publication are considered and added on form 892.

Specification

3. The abstract of the disclosure is objected to because abstract is in two paragraphs. The abstract should be in narrative form and generally limited to a single paragraph on separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length.

Correction is required. See MPEP § 608.01(b).

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
5. The disclosure is objected to because: There are various discrepancies in the layout and the content of the specification, such as Brief description of the drawing is at two places, the detail description also, provided at two places and none of them disclose the actual disclosure of the invention. At the first instant, with heading "Description of the preferred embodiment", the configuration of figure 2 is described with via preparation, but no via is shown in figure 2. At the second instant of the specification with the heading "Detailed description of the invention", instead of actual description of the invention, how the cost is saved and where the invention is used such as, load boards, personal computers, high speed differential signals, mother board and back planes, etc is described.

Appropriate correction is required.

The following guidelines illustrate the preferred layout for the specification of a utility application. **These guidelines are suggested for the applicant's use.**

Arrangement of the Specification

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As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the

lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the

phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05.

Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of

text are permitted to be submitted on compact discs.) or

REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office

until March 1, 2001.)

- (f) BACKGROUND OF THE INVENTION.

(1) Field of the Invention.

(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.

- (g) BRIEF SUMMARY OF THE INVENTION.

- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).

- (i) DETAILED DESCRIPTION OF THE INVENTION.

- (j) CLAIM OR CLAIMS (commencing on a separate sheet).

(k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

(l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application

discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not

submitted as an electronic document on compact disc).

Content of Specification

(a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first

page of the specification unless the title is provided in an application data sheet. The title of the invention should be brief but

technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.

(b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.

(c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.

(d) The Names Of The Parties To A Joint Research Agreement: See 37 CFR 1.71(g).

(e) Incorporation-By-Reference Of Material Submitted On a Compact Disc: The specification is required to include an incorporation-

by-reference of electronic documents that are to become part of the permanent United States Patent and Trademark Office

records in the file of a patent application. See 37 CFR 1.52(e) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)),

"Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were permitted as electronic documents on

compact discs beginning on September 8, 2000.

Or alternatively, Reference to a "Microfiche Appendix": See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the

Office until March 1, 2001.

- (f) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two

parts:

- (1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a

paraphrasing of the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This

item may also be titled "Technical Field."

- (2) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the

related art known to the applicant and including, if applicable, references to specific related art and problems involved in

the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."

- (g) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37

CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure

as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior

art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility

of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the

invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.

- (h) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the

drawing(s) as set forth in 37 CFR 1.74.

- (i) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as

required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately

and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally

widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use

of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated

subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field,

the specification should refer to another patent or readily available publication, which adequately describes the subject matter.

- (j) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet or electronic

page (37 CFR 1.52(b)(3)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be

separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps. See 37

CFR 1.75 and MPEP § 608.01(i)-(p).

- (k) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150

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words or less commencing on a separate sheet following the claims. In an international application which has entered the

national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was

published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet

published by the International Bureau (IB) of the World Intellectual Property Organization (WIPO) is the abstract that will be used

by the USPTO. See MPEP § 1893.03(e).

- (I) Sequence Listing. See 37 CFR 1.821-1.825 and MPEP §§ 2421-2431. The requirement for a sequence listing applies to all

sequences disclosed in a given application, whether the sequences are claimed or not. See MPEP § 2421.02.

Claim Objections

6. Claims 1-4, 7, 13, 14 and 17 objected to because of the following informalities:

Regarding claim 1: (a) Reference to the figure 1 and 2 in the is not required. The reference to the figure to be removed. (b) "PCB" used first time in the claim should be fully spelled.

Claims 2-4, 7, 13, 14 and 17 depend upon claim 1 and inherit same deficiency.

(b) "PCB" used first time in the claim should be fully spelled.

Appropriate correction is required.

Claim interpretation

7. Claims are not drafted properly. Neither described as a structure of product nor as a product by process. The prior art is applied to the equivalent structure.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-4, 7, 13, 14 and 17 are rejected as failing to define the invention in the manner required by 35 U.S.C. 112, second paragraph.

The claim(s) are narrative in form and replete with indefinite and functional or operational language. The structure which goes to make up the device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device. **The claim(s) must be in one sentence form only.** Note the format of the claims in the patent(s) cited.

9. Claim 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 17, the language "wherein laminating metal to metal **may use** an adhesive coating or an adhesive layer" makes the claim indefinite. It does not make clear the presence of the adhesive in the structure. For the examination purpose the presence of the adhesive layer not considered.

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10. An examination of this application reveals that applicant is unfamiliar with patent prosecution procedure. While an inventor may prosecute the application, lack of skill in this field usually acts as a liability in affording the maximum protection for the invention disclosed. Applicant is advised to secure the services of a registered patent attorney or agent to prosecute the application, since the value of a patent is largely dependent upon skilled preparation and prosecution. The Office cannot aid in selecting an attorney or agent.

A listing of registered patent attorneys and agents is available on the USPTO Internet web site <http://www.uspto.gov> in the Site Index under "Attorney and Agent Roster." Applicants may also obtain a list of registered patent attorneys and agents located in their area by writing to the Mail Stop OED, Director of the U. S. Patent and Trademark Office, PO Box 1450, Alexandria, VA 22313-1450.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 1-4, 7, 14 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Shiau et al., US Patent No. 5,319,329 (Shiau).

Regarding claim 1, Shiau, in figure 2, discloses a printed circuit board (PCB) with one signal trace (64) on a thin dielectric layer (42) suspended in air between two flat metal plates (44,46), with indentation in the plates (see figure).

Regarding claim 2-4, the applicant is claiming the method steps by which the product is made. However, how the product is made is a process step in the product. Such a process limitation defines the claimed invention over the prior art to the degree that it defines the product itself. A process limitation cannot serve to patentably distinguish the product over the prior art, in the case that the product is same as, or obvious over the prior art. See Product-by-Process in MPEP § 2113 and 2173.05(p) and *In re Thorpe*, 777 F.2d 695, 227 USPQ 964, 966 (Fed. Cir. 1985). Shiau discloses all the features of the claimed invention as applied to claim 1 above. Therefore, Shiau meets the limitation.

Regarding claim 7, Shiau discloses all the features of the claimed invention including the dielectric layer as applied to claim 1 above. Also, structure of Shiau is a stable to be function as a device. Therefore, the substrate must be strong enough to support the trace. Therefore, Shiau meets the limitation.

Regarding claim 14, Shiau further discloses the channels in the metal plates extended to the edges of the PCB (see figure).

Regarding claim 17, Shiau further discloses all the features of the claimed invention as applied to claim 1 above.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shiau et al., US Patent No. 5,319,329 (Shiau), in view of Cruchon et al., US Patent No. 4,849,722 (Cruchon).

Regarding claim 13, Shiau discloses all the features of the claimed invention, including the conductive layers and trace but does not disclose the thickness of spacer about 4 or 5 mils, trace about 1 mil thick and the overall section about 12 mil thick. However, the size of the trace will depend upon the signal transmitting capacity required and that of the spacer layers will be decided based on the control of the electromagnetic fields. Cruchon in figure 1, a structure with a trace (15) on a substrate (14), which is sandwiched between two conductive body (10 and 11). Cruchon further states how the height (H, H') of the spacer is selected, column 2, line 62 to column 3, line 42. Also, Cruchon, by way of an example discloses dimensions of various component (column 4,

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line 3-24) and states that the component parts could be replaced by equivalent parts without thereby going beyond the scope of the invention. Further, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to provide the structure of Shiau with the dimension of the spacer and trace along with the overall section as claimed, as taught by Cruchon, in order to control the electromagnetic field to the desired range for the optimum performance of the device.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Glance et al., US Patent No. 3,863,181 in figure 2, discloses a printed wiring board with a trace (204) on the dielectric substrate (203) sandwiched between two plates 212 and 213.

Kuroki, US Patent No. 4,739,453, in figure 3, discloses a structure with a printed circuit board (20) with traces (22) having metallic cases 40a and 40b provided on top and bottom of the circuit board.

Persson et al., US Patent No. 5,672, 844, in figure 3, discloses an electronic package with circuit board (240) sandwiched between the housing (320).

Junichi Matsumoto, Japanese Patent No. JP404275493A, in figure 1, discloses a shielding device with a flexible board (16) shielded by shield cases (11, 12).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ishwar (I. B.) Patel whose telephone number is (571) 272 1933. The examiner can normally be reached on M-F (8:30 - 5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on (571) 272 1957. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ishwar (I. B.) Patel
Examiner
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November 25, 2005